

## **PREDISTORTION MODULATOR**

### **ABSTRACT OF THE DISCLOSURE**

A device for predistorting a digital symbol for modulating an RF signal includes a multi-bit buffer connected to an input serial bit stream and providing a parallel bit stream from the input serial bit stream; and a processing module connected to the input parallel bit stream. The processing module converts data bits of the input parallel bit stream into an input digital symbol and inputs a set of gain adjustments and phase adjustments that compensate for a channel distortion. The processing module decides which of the set of gain and phase adjustments to apply depending on a magnitude of the input digital symbol, applies a gain adjustment and a phase adjustment, from the set of gain and phase adjustments, to the input digital symbol to produce a predistorted symbol, and outputs quadrature components of the predistorted symbol to a quadrature modulator.